Powerwerks™

OWNER'S MANUAL

PW50

Congratulations on the purchase of your Powerwerks PW50.
This P.A. system combines quality performance and convenient features, all in a highly portable package. You'll find that the PW50 works well in a variety of environments, amplifying vocals, instruments, keyboards, drum machines, audio devices and more. This manual will help you get up and running quickly. We wish you many years of enjoyment from your Powerwerks PW50.

FCC Statements

1. Caution: Changes or modifications to this unit not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

2. Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

ENGLISH

Danger

Exposure to extremely high noise levels may cause a permanent hearing loss. Individuals vary considerably to noise induced hearing loss but nearly everyone will lose some hearing if exposed to sufficiently intense noise for a sufficient time.

The U.S. Government's Occupational Safety and Health Administration (OSHA) has specified the following permissible noise level exposures:

DURATION PER DAY (HOURS)	8	6	4	3	2	1
SOUND LEVEL (dB)	90	93	95	97	100	103

According to OSHA, any exposure in the above permissible limits could result in some hearing loss. Ear plugs or protectors in the ear canal or over the ears must be worn when operating this amplification system in order to prevent a permanent hearing loss. If exposure in excess of the limits as put forth above, to insure against potentially harmful exposure to high sound pressure levels, it is recommended that all persons exposed to equipment capable of inducing high sound pressure levels, such as this amplification system, be protected by hearing protectors while this unit is in operation.

CAUTION
RISK OF ELECTRIC SHOCK DO NOT OPEN

CAUTION: *TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE CHASSIS. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.*

AVIS: RISQUE DE CHOC ELECTRIQUE-NE PAS OUVRIR.

THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF NON-INSULATED "DANGEROUS VOLTAGE" WITHIN THE PRODUCT'S ENCLOSURE THAT MAY BE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.

THIS SYMBOL IS INTENDED TO ALERT THE USER TO THE PRESENCE OF IMPORTANT OPERATING AND MAINTENANCE (SERVICING) INSTRUCTIONS IN THE LITERATURE ACCOMPANYING THE UNIT.

APPARATUS SHALL NOT BE EXPOSED TO DRIPPING OR SPLASHING AND THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHALL BE PLACED ON THE APPARATUS.

IMPORTANT SAFETY INSTRUCTIONS

1. Read all safety and operating instructions before using this product.
2. All safety and operating instructions should be kept for future reference.
3. Read and understand all warnings listed on the operating instructions.
4. Follow all operating instructions to operate this product.
5. This product should not be used near water, i.e. Bathtub, sink,swimming pool, wet basement, etc.
6. Only use dry cloth to clean this product.
7. Do not block any ventilation openings, It should not be placed flat against a wall or placed in a built-in enclosure that will impede the flow of cooling air.
8. Do not install this product near any heat sources ;such as,radiators, heat registers, stove or other apparatus (including heat producing amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the 0ther.A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord being walked on or pinched, particularly at Plugs, convenience receptacles and the point where they exit from the apparatus. Do not break the ground pin of the power supply cord.
11. Only use attachments specified by the manufacturer.
12. Use only with the cart, stand, tripod, bracket, or table specified by the manufacturer or sold with the apparatus. When a cart is used, use caution when moving cart/ apparatus combination to avoid injury from tip-over.

13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Care should be taken so that objects do not fall and liquids are not spilled into the unit through the ventilation ports or any other openings.
15. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way; such as, power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally or has been dropped.
16. WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture.
17. When the MAINS plug,or an appliance coupler, is used as the disconnect device, the disconnect device shall remain readily operable.

FRENCH

Danger

L'exposition a des niveaux eleves de bruit peut provoquer une perte permanente de l'audition, Chaque organisme humain reagit differemment quant a la perte de l'audition, mais quasiment tout le monde subit une diminution de l'acuite auditive lors d'une exposition suffisamment longue au bruit intense. Les autorites competentes en reglementation de bruit ont defini les expositions tolerees aux niveaux de bruits:

DURE EN HEURES PAR JOUR	8	6	4	3	2	1
INIVEAU SONORE CONTINU EN dB	90	93	95	97	100	103

Selon les autorites, toute exposition dans les limites citees ci-dessus,peuvent provoquer certaines pertes d'audition. Des bouchons ou protections dans l'appareil auditif ou sur l'oreille doivent etre portes lors de l'utilisation de ce systeme d'amplification afin de prevenir le risque de perte permanente de l'audition, Dans le cas d'expositions superieures aux limites precitees il est recommande, afin de se premunir contre les expositions aux pressions acoustiques elevees potentiellement dangereuses, aux personnes exposees aux equipements capables de delivrer de telles puissances, tels ce systeme d'amplification en fonctionnement, de proteger l'appareil auditif.

ATTENTION

RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIR.

ATTENTION: AFIN DE LIMITER LE RISQUE DE CHOC ELECTRIQUE, NE PAS ENLEVER LE CHASSIS. NE CONTIENT PAS DE PIECES POUVANT ETRE REPAREE PAR L'UTILISATEUR. CONFIER LE SERVICE APRES-VENTE AUX REPARATEURS AGREES.

CE SYMBOLE A POUR BUT D'AVERTIR L'UTILISATEUR DE LA PRESENCE DE VOLTAGE DANGEREUX NON-ISOLE A L'INTERIEUR DE CE PRODUIT QUI PEUT ETRE DE PUISSANCE SUFFISAMMENT IMPORTANTE POUR PROVOQUER UN CHOC ELECTRIQUE AUX PERSONNES.

CE SYMBOLE A POUR BUT D'AVERTIR L'UTILISATEUR DE LA PRESENCE D'INSTRUCTIONS D'UTILISATION ET DE MAINTENANCE DANS LES DOCUMENTS FOURNIS AVEC CE PRODUIT.

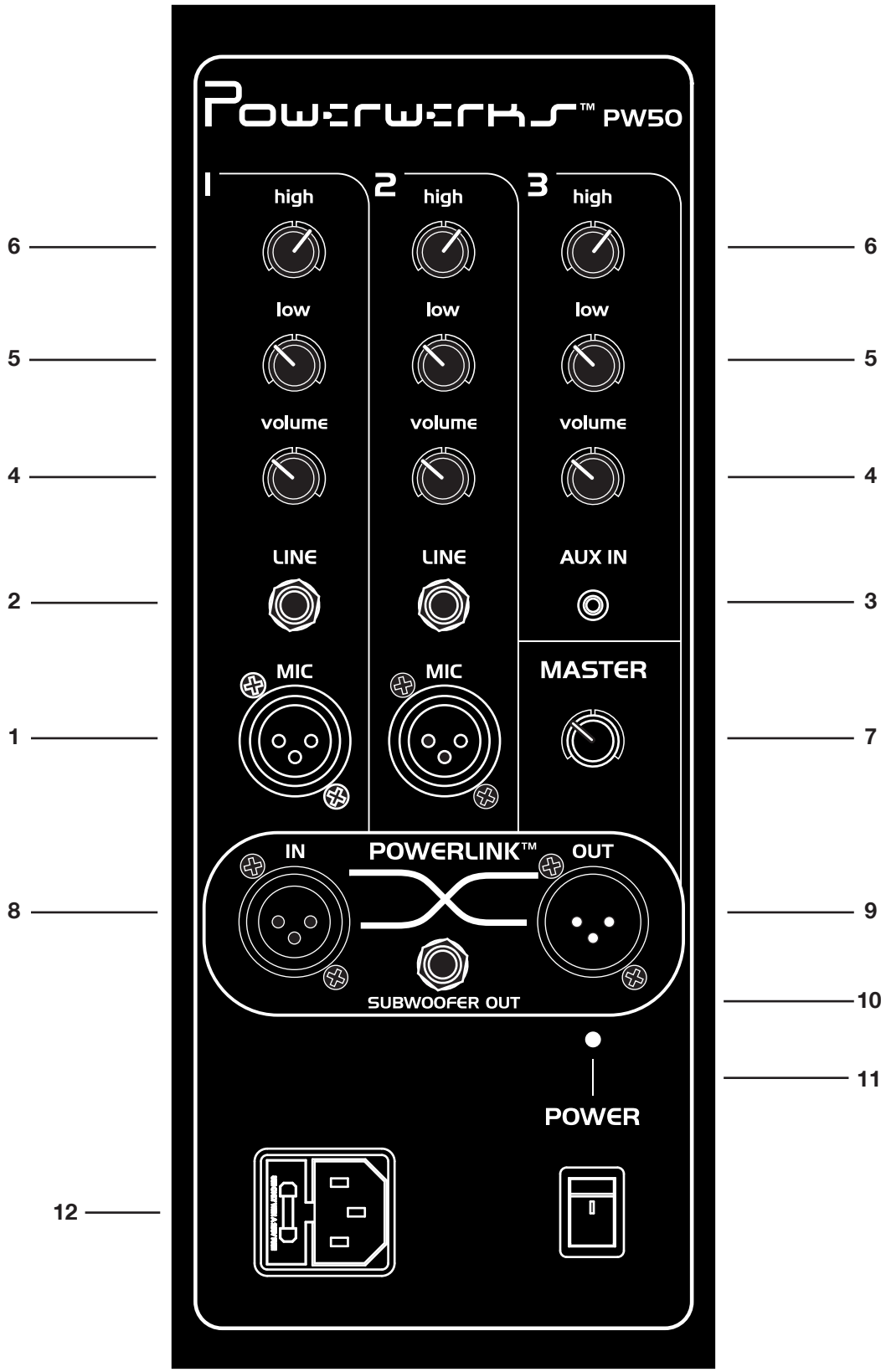
AFIN DE REDUIRE LES RISQUÉ D'INCENDIE ET DE DECHARGE ELECTRIQUE, NE PAS EXPOSER CET APPAREIL A LA PLUIE OU A L'HUMIDITE.

IMPORTANTES INSTRUCTIONS DE SECURITE

1. Lire avec attention toutes les recommandations et précautions d'emploi avant d'utiliser ce produit.
2. Toutes les recommandations et précautions d'emploi doivent être conservées afin de pouvoir s'y reporter si nécessaire.
3. Lire et comprendre tous les avertissements énumérés dans les précautions d'emploi.
4. Suivre toutes les précautions d'emploi pour utiliser ce produit.
5. Ce produit ne doit pas être utilisé près d'eau, comme par exemple baignoires, éviers, piscine, sous-sol humides ... Etc.
6. Utiliser exclusivement un chiffon sec pour nettoyer ce produit.
7. Ne bloquér aucune ouverture de ventilation. Ne pas placer le produit tout contre un mur ou dans une enceinte fernée, cela gênerait le flux d'air nécessaire au refroidissement.
8. Ne pas placer le produit près de toute source de chaeur telle que radiateurs, arrivées d'air chaud, fourneaux ou autres appareils générant de la chaleur (incluant les amplificateurs producteurs de chaleur) .
9. Ne pas négliger la sécurité que procure un branchement polarisé ou avec raccordement à la terre, Un branchement polarisé comprend deux fiches dont l'une est plus large que l'autre. Un branchement à la terre comprend deux fiches plus une troisième reliée à la terre. Si la fiche secteur fournie ne s'insert pas dans votre prise de courant. consulter un 'électricien afin de remplacer votre prise obsolète.
10. Protéger le cordon d'alimentation de tout écrasement ou pincement, particulièrement au niveau des fiches, des réceptacles utilisés et à l'endroit de sortie de l'appareil. Ne pas casser la fiche de terre du cordon d'alimentation.
11. Utiliser uniquement les accessoires spécifiés par le constructeur.
12. Utiliser uniquement avec le chariot de transport, le support, le trépied, la console ou la table spécifiés par le constructeur ou vendus avec l'appareil. Lors de l'utilisation d'un chariot, bouger avec précaution l'ensemble chariotlappareil afin d'éviter les dommages d'un renversement.

13. Débrancher cet appareil lors d'orages ou s'il n'est pas utilisé pendant une longue période.
14. Des précautions doivent être prises afin qu'aucun objet ne tombe et qu'aucun liquide ne se répande à l'intérieur de l'appareil par les orifics de ventilation ou n'importe quelle autre ouverture.
15. Pour toutes interventions techniques s'adresser à un technicien qualifié.L'intervention technique est nécessaire lorsque l'appareil a été endommagé de n'importe quelle façon, comme par exemple si le cordon secteur ou sa fiche sont détériorés,si du liquide a coulé ou si des objets sont tombés à l'intérieur de l'apparei1,si l'appareil a été exposé à la pluie ou à l'humidité, s'il ne fonctionne pas normalement ou s'il est tombé.
16. ATTENTI0N:Pour réduire le risque d'incendie ou de choc electrique ne pas exposer l'appareil à la pluie ou à l'humidité.
17. Quand la prise MAINS, au coupler, est utilisé pour la source d'alimentation êlectrique, il est conseillê de garder cette prise facilement accessible.

PW50 Control Panel



PW50 Control Panel

OVERVIEW: CONTROLS & FUNCTIONS BACK PANEL:

INPUT SECTION:

This is where you may plug in microphones, instruments, keyboards, drum machines and other audio devices, adjust the volume, bass and treble.

1. MIC Inputs: These XLR inputs are designed for low-impedance microphones or equipment that has a mic-level, balanced output (often called a Direct Out). Note: These inputs receive 15-volt phantom power. This is used to provide power to condenser microphones. Phantom power will not damage any dynamic or non-condenser microphone.

2. LINE Inputs: These ¼-inch inputs may be used to connect high-impedance microphones or keyboards, drum machines and other audio devices.

3. AUX IN: Use this stereo input to connect an external audio device such as an MP3, CD player or computer for playback. Note: Right and Left channels are summed to mono on this input.

4. Volume: Use these controls to adjust the volume level of each channel and the relative balance between them.

5. Low: Determines the emphasis of bass frequencies. Turning this knob clockwise creates a deeper, warmer tone. If you need a brighter sound, reduce the bass by turning counterclockwise.

6. High: Turned clockwise, this control accents treble frequencies to produce clearer, crisper sound. Turn counterclockwise to make the sound softer and less bright.

7. Master Volume: Controls the overall volume of all channels and input on POWERLINK Note: Does not affect POWERLINK Output level.

8. POWERLINK IN: This balanced XLR Jack accepts the POWERLINK output from another PW50 using a standard mic cable. Channels from both PW50's are summed together. Use the channel volume controls to get the mix of the 6 channels (If a channel is not used turn the volume all the way down). MASTER volume controls the loudness of the mix through its PW50. It does not affect volume of linked PW50. Note: The shield connection (pin 1) on this jack is connected to chassis ground. It is not lifted.

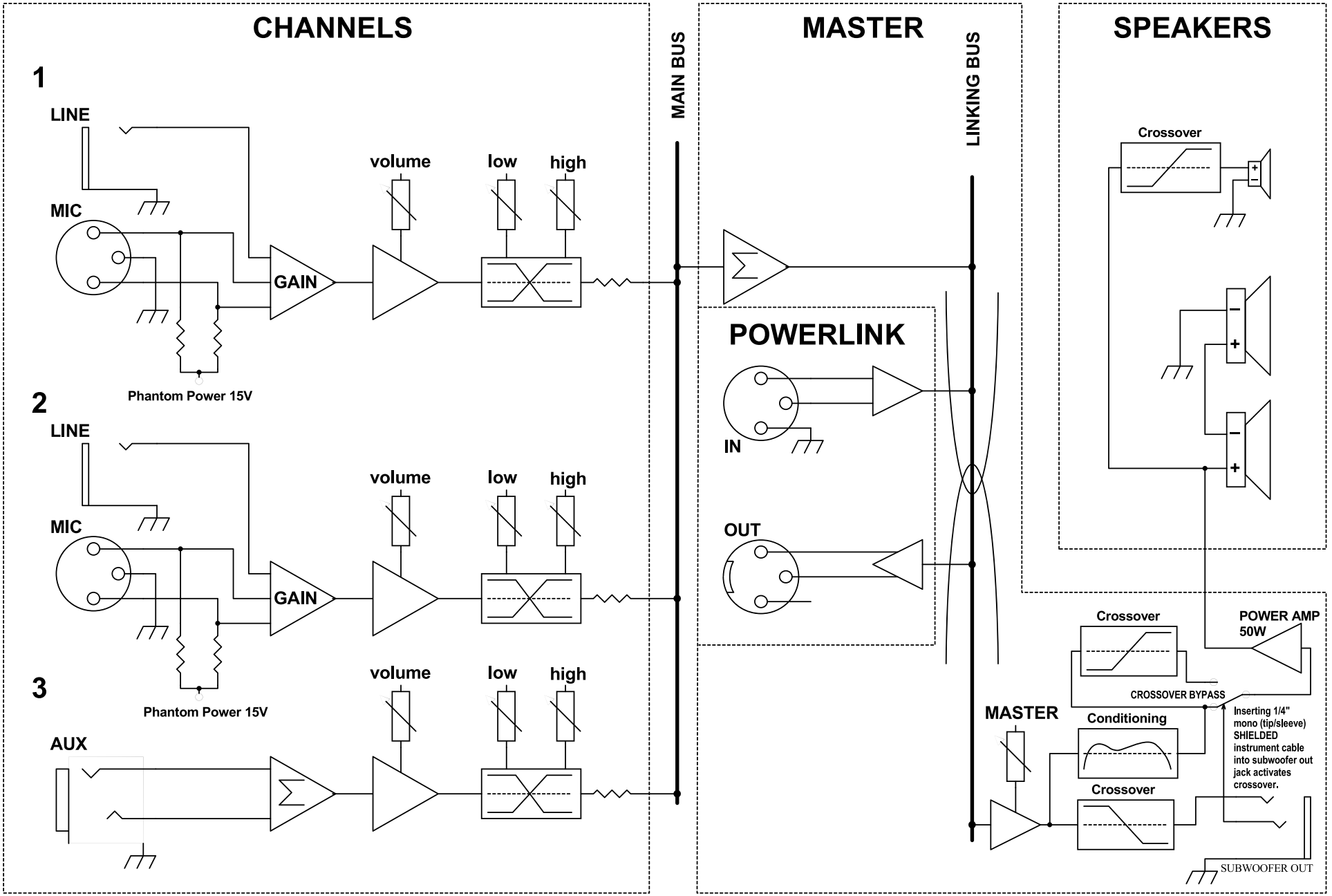
9. POWERLINK OUT: This balanced XLR Jack accepts the POWERLINK input from another PW50 using a standard mic cable. Channels from both PW50's are summed together. Use the channel volume controls to get the mix of the 6 channels (If a channel is not used turn the volume all the way down). MASTER volume controls the loudness of the mix through its PW50. It does not affect volume of linked PW50. This jack may also be used to connect the PW50 to a power amp with a balanced line input. Note: The shield connection (pin 1) on this jack does not connect to chassis ground. It is lifted.

10. Subwoofer Out: The PW50 subwoofer output jack sends a line level unbalanced low frequency signal crossed over at 150Hz to a PW112S powered subwoofer. It will also work with any powered subwoofer that accepts a line level input. A crossover that rolls off the frequencies below 150Hz through the PW50's speakers is activated when using this jack with a standard ¼" mono (tip/Sleeve) SHIELDED instrument cable. When Subwoofer jack is not used, this crossover is bypassed and PW50 speakers are full range. Note: It is recommended to connect subwoofer using a standard ¼" mono (tip/sleeve) SHIELDED instrument cable because the sleeve connection to ground activates crossover on PW50 speakers. When possible, plug AC cable on PW50 and Subwoofer into same outlet or power strip. This will prevent possible ground loop hum through the system.

11. Power: This switch activates AC power to the powered PA.

12. AC Power Cord Receptacle: Insert the PW50's AC cord firmly into the AC receptacle. Be sure to use the cable provided with your PW50. The power cord can be removed for storage or replacement if damaged. Note: Replace the AC cord if its protective jacket is damaged or ground pin is damaged or removed.

PW50 Powered PA Specifications		
Output Power 1%	50W	8 Ohm load
Accepted Inputs	CH 1 and 2	Mic XLR Balanced, Line level 1/4" Un-balanced
	CH3	1/8" Headphone/line Level Stereo, mixed mono
Frequency Response	20HZ-20kHz	Actual response is tailored to speaker cabinet for accurate acoustical response.
Hum & Noise	-65dB	Residual Noise, all level controls 0% (minimum)
	-48dB	Nominal System Noise, all level controls at 50%
System Gain (Measurements made at 1kHz)	+70dB	Mic to Speaker Output (CH 1 & 2)
	+56dB	Line to Speaker Output (CH 1 & 2)
	+42dB	AUX IN to Speaker Output
Channel EQ (high, low)	4kHz and above , 800Hz and below.	
POWERLINK (IN and OUT)	Both jacks accept a balanced input and sends a pre-master volume output mix of channels. Recommended use: Linking two PW50 units together.	
Subwoofer Out	Line Out	20Hz-150Hz.
Phantom Power	+15V	Mic inputs (Ch 1 & 2)
Power Requirements	USA/Canada	120VAC/60Hz, 80W nominal
	Europe	230VAC/50Hz, 80W nominal
	UK	230VAC/50Hz, 80W nominal
	Australia	240VAC/50Hz, 80W nominal
	Japan	100VAC/50-60Hz, 80W nominal
Speakers	Two 4½"	50W 4 Ohm each
Horn	3 1/2"piezo driver	
Power Capacity	50W	RMS
Frequency Response	60HZ-20kHz	Full range (subwoofer jack not used)
	150HZ-20kHz	Crossover Active (1/4" mono plug in subwoofer jack)
Nominal Impedance	8 Ohms	Not designed for external speakers
Dimensions & Weight	mm/kg	190 W x 460 H x 165 D / 6.7 kg
	Inches/Pounds	7½ W x 18 H x 6½ D / 14.7 lb



PW50 Signal Flow Diagram

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PW50 SYSTEM
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